

App. No. : 10/808,717 Confirmation No. 6585
Applicant : San, Ka-Yiu; Bennett, G.N.; Vadali, R.V.
Filed : March 24, 2004
TC/A.U. : 1652
Examiner : Walicka, M.A.
Docket No. : 31175413-005002
Customer No. : 51738
Entitled : Increased Bacterial Acetyl-CoA Pool

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF GEORGE N. BENNETT UNDER 37 CFR §1.132

I, George N. Bennett, Declare as follows:

I am at least 18 years of age and am competent in all respects to make the following statements.

I am a joint inventor for claims 27-33 currently pending in US Patent Application No. 10/808,717.

I have read and understand the above-referenced application and pending claims.

I am a person of ordinary skill in the art of engineered bacteria and metabolic pathways, see the attached *curriculum vitae*.

Coenzyme A synthesis is conserved across all bacterial species. This universally conserved system synthesizes coenzyme A from the essential vitamin pantothenate. Overexpression of pantothenate kinase will increase coenzyme A production in **all** characterized bacterial species.

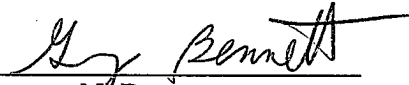
The glycolytic pathways described in the above referenced application are conserved across all organotrophic bacteria. All bacterial species have the highly conserved enzymes required to

create and utilize pyruvate and acetyl-CoA. Thus expression of pantothenate kinase, pyruvate dehydrogenase, and alcohol acetyl transferase described in claims 27-33 will increase CoA flux to secondary metabolites in **all** bacteria.

The enzymes recited in claims 27-33 are defined by their function. Thus all pantothenate kinase enzymes will catalyze the conversion of pantothenic acid to phosphopantothenate. All pyruvate dehydrogenase enzymes will catalyze the conversion of pyruvate to acetyl-coA. Finally all alcohol acetyl transferase enzymes will catalyze the conversion of alcohol to ester.

I further declare that all statements made herein of my own knowledge are true and made on information believed to be true; further that these statements were made with the knowledge that willful false statements are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code; and that such willful false statements may jeopardize the validity of any application for which it is used.

Dated: March 29 2007

By 
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- B.S., University of Nebraska, Lincoln, 1968 (Chemistry)
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I. Publications

Oh, Y., Varmanen, P., Han, X.-Y., Bennett, G., Xu, Z., Lu, T., and Palva, A. "Lactobacillus plantarum for oral peptide delivery." *Oral Microbiology and Immunology*, 21 (2006): 1-5.

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